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RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/656,053

DATE: 09/22/2003
TIME: 16:58:30

Input Set : N:\Crf3\RULE60\10656053.RAW.txt
Output Set: N:\CRF4\09222003\J656053.raw

SEQUENCE LISTING

3 (1) GENERAL INFORMATION:

5 (i) APPLICANT: Guevera, Jr., Juan G.
6 Hoogeveen, Ron C.
7 Moore, Paul J.
9 (ii) TITLE OF INVENTION: LIPOPROTEINS AS NUCLEIC ACID DELIVERY
10 VECTORS FOR TRANSFECTION OF EUKARYOTIC CELLS
12 (iii) NUMBER OF SEQUENCES: 229
14 (iv) CORRESPONDENCE ADDRESS:
15 (A) ADDRESSEE: Arnold, White & Durkee
16 (B) STREET: P.O. Box 4433
17 (C) CITY: Houston
18 (D) STATE: Texas
19 (E) COUNTRY: USA
20 (F) ZIP: 77210

22 (v) COMPUTER READABLE FORM:

23 (A) MEDIUM TYPE: Floppy disk
24 (B) COMPUTER: IBM PC compatible
25 (C) OPERATING SYSTEM: PC-DOS/MS-DOS
26 (D) SOFTWARE: PatentIn Release #1.0, Version #1.30

28 (vi) CURRENT APPLICATION DATA:

C--> 29 (A) APPLICATION NUMBER: US/10/656,053
C--> 30 (B) FILING DATE: 05-Sep-2003
W--> 36 (C) CLASSIFICATION:

33 (vii) PRIOR APPLICATION DATA:

34 (A) APPLICATION NUMBER: US/09/079,030
35 (B) FILING DATE: 1998-05-14

38 (viii) ATTORNEY/AGENT INFORMATION:

39 (A) NAME: McMillian, Nabeela R.
40 (B) REGISTRATION NUMBER: P-43,363
41 (C) REFERENCE/DOCKET NUMBER: ARAG:003

43 (ix) TELECOMMUNICATION INFORMATION:

44 (A) TELEPHONE: 512/418-3000
45 (B) TELEFAX: 512/474-7577

48 (2) INFORMATION FOR SEQ ID NO: 1:

50 (i) SEQUENCE CHARACTERISTICS:

51 (A) LENGTH: 4536 amino acids
52 (B) TYPE: amino acid
53 (C) STRANDEDNESS:
54 (D) TOPOLOGY: linear

56 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

Glu Glu Glu Met Leu Glu Asn Val Ser Leu Val Cys Pro Lys Asp Ala

59 1 5 10 15

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61 Thr Arg Phe Lys His Leu Arg Lys Tyr Thr Tyr Asn Tyr Glu Ala Glu
 62 20 25 30
 64 Ser Ser Ser Gly Val Pro Gly Thr Ala Asp Ser Arg Ser Ala Thr Arg
 65 35 40 45
 67 Ile Asn Cys Lys Val Glu Leu Glu Val Pro Gln Leu Cys Ser Phe Ile
 68, 50 55 60
 70 Leu Lys Thr Ser Gln Cys Thr Leu Lys Glu Val Tyr Gly Phe Asn Pro
 71 65 70 75 80
 73 Glu Gly Lys Ala Leu Leu Lys Lys Thr Lys Asn Ser Glu Glu Phe Ala
 74 85 90 95
 76 Ala Ala Met Ser Arg Tyr Glu Leu Lys Leu Ala Ile Pro Glu Gly Lys
 77 100 105 110
 79 Gln Val Phe Leu Tyr Pro Glu Lys Asp Glu Pro Thr Tyr Ile Leu Asn
 80 115 120 125
 82 Ile Lys Arg Gly Ile Ile Ser Ala Leu Leu Val Pro Pro Glu Thr Glu
 83 130 135 140
 85 Glu Ala Lys Gln Val Leu Phe Leu Asp Thr Val Tyr Gly Asn Cys Ser
 86 145 150 155 160
 88 Thr His Phe Thr Val Lys Thr Arg Lys Gly Asn Val Ala Thr Glu Ile
 89 165 170 175
 91 Ser Thr Glu Arg Asp Leu Gly Gln Cys Asp Arg Phe Lys Pro Ile Arg
 92 180 185 190
 94 Thr Gly Ile Ser Pro Leu Ala Leu Ile Lys Gly Met Thr Arg Pro Leu
 95 195 200 205
 97 Ser Thr Leu Ile Ser Ser Ser Gln Ser Cys Gln Tyr Thr Leu Asp Ala
 98 210 215 220
 100 Lys Arg Lys His Val Ala Glu Ala Ile Cys Lys Glu Gln His Leu Phe
 101 225 230 235 240
 103 Leu Pro Phe Ser Tyr Asn Asn Lys Tyr Gly Met Val Ala Gln Val Thr
 104 245 250 255
 106 Gln Thr Leu Lys Leu Glu Asp Thr Pro Lys Ile Asn Ser Arg Phe Phe
 107 260 265 270
 109 Gly Glu Gly Thr Lys Lys Met Gly Leu Ala Phe Glu Ser Thr Lys Ser
 110 275 280 285
 112 Thr Ser Pro Pro Lys Gln Ala Glu Ala Val Leu Lys Thr Leu Gln Glu
 113 290 295 300
 115 Leu Lys Lys Leu Thr Ile Ser Glu Gln Asn Ile Gln Arg Ala Asn Leu
 116 305 310 315 320
 118 Phe Asn Lys Leu Val Thr Glu Leu Arg Gly Leu Ser Asp Glu Ala Val
 119 325 330 335
 121 Thr Ser Leu Leu Pro Gln Leu Ile Glu Val Ser Ser Pro Ile Thr Leu
 122 340 345 350
 124 Gln Ala Leu Val Gln Cys Gly Gln Pro Gln Cys Ser Thr His Ile Leu
 125 355 360 365
 127 Gln Trp Leu Lys Arg Val His Ala Asn Pro Leu Leu Ile Asp Val Val
 128 370 375 380
 130 Thr Tyr Leu Val Ala Leu Ile Pro Glu Pro Ser Ala Gln Gln Leu Arg
 131 385 390 395 400
 133 Glu Ile Phe Asn Met Ala Arg Asp Gln Arg Ser Arg Ala Thr Leu Tyr

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134	405	410	415
136	Ala Leu Ser His Ala Val Asn Asn Tyr His Lys Thr Asn Pro Thr Gly		
137	420	425	430
139	Thr Gln Glu Leu Leu Asp Ile Ala Asn Tyr Leu Met Glu Gln Ile Gln		
140	435	440	445
142	Asp Asp Cys Thr Gly Asp Glu Asp Tyr Thr Tyr Leu Ile Leu Arg Val		
143	450	455	460
145	Ile Gly Asn Met Gly Gln Thr Met Glu Gln Leu Thr Pro Glu Leu Lys		
146	465	470	475
148	Ser Ser Ile Leu Lys Cys Val Gln Ser Thr Lys Pro Ser Leu Met Ile		
149	485	490	495
151	Gln Lys Ala Ala Ile Gln Ala Leu Arg Lys Met Glu Pro Lys Asp Lys		
152	500	505	510
154	Asp Gln Glu Val Leu Leu Gln Thr Phe Leu Asp Asp Ala Ser Pro Gly		
155	515	520	525
157	Asp Lys Arg Leu Ala Ala Tyr Leu Met Leu Met Arg Ser Pro Ser Gln		
158	530	535	540
160	Ala Asp Ile Asn Lys Ile Val Gln Ile Leu Pro Trp Glu Gln Asn Glu		
161	545	550	555
163	Gln Val Lys Asn Phe Val Ala Ser His Ile Ala Asn Ile Leu Asn Ser		
164	565	570	575
166	Glu Glu Leu Asp Ile Gln Asp Leu Lys Lys Leu Val Lys Glu Ala Leu		
167	580	585	590
169	Lys Glu Ser Gln Leu Pro Thr Val Met Asp Phe Arg Lys Phe Ser Arg		
170	595	600	605
172	Asn Tyr Gln Leu Tyr Lys Ser Val Ser Leu Pro Ser Leu Asp Pro Ala		
173	610	615	620
175	Ser Ala Lys Ile Glu Gly Asn Leu Ile Phe Asp Pro Asn Asn Tyr Leu		
176	625	630	635
178	Pro Lys Glu Ser Met Leu Lys Thr Thr Leu Thr Ala Phe Gly Phe Ala		
179	645	650	655
181	Ser Ala Asp Leu Ile Glu Ile Gly Leu Glu Gly Lys Gly Phe Glu Pro		
182	660	665	670
184	Thr Leu Glu Ala Leu Phe Gly Lys Gln Gly Phe Phe Pro Asp Ser Val		
185	675	680	685
187	Asn Lys Ala Leu Tyr Trp Val Asn Gly Gln Val Pro Asp Gly Val Ser		
188	690	695	700
190	Lys Val Leu Val Asp His Phe Gly Tyr Thr Lys Asp Asp Lys His Glu		
191	705	710	715
193	Gln Asp Met Val Asn Gly Ile Met Leu Ser Val Glu Lys Leu Ile Lys		
194	725	730	735
196	Asp Leu Lys Ser Lys Glu Val Pro Glu Ala Arg Ala Tyr Leu Arg Ile		
197	740	745	750
199	Leu Gly Glu Leu Gly Phe Ala Ser Leu His Asp Leu Gln Leu Leu		
200	755	760	765
202	Gly Lys Leu Leu Leu Met Gly Ala Arg Thr Leu Gln Gly Ile Pro Gln		
203	770	775	780
205	Met Ile Gly Glu Val Ile Arg Lys Gly Ser Lys Asn Asp Phe Phe Leu		
206	785	790	795
			800

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208 His Tyr Ile Phe Met Glu Asn Ala Phe Glu Leu Pro Thr Gly Ala Gly
209 805 810 815
211 Leu Gln Leu Gln Ile Ser Ser Ser Gly Val Ile Ala Pro Gly Ala Lys
212 820 825 830
214 Ala Gly Val Lys Leu Glu Val Ala Asn Met Gln Ala Glu Leu Val Ala
215 835 840 845
217 Lys Pro Ser Val Ser Val Glu Phe Val Thr Asn Met Gly Ile Ile Ile
218 850 855 860
220 Pro Asp Phe Ala Arg Ser Gly Val Gln Met Asn Thr Asn Phe Phe His
221 865 870 875 880
223 Glu Ser Gly Leu Glu Ala His Val Ala Leu Lys Ala Gly Lys Leu Lys
224 885 890 895
226 Phe Ile Ile Pro Ser Pro Lys Arg Pro Val Lys Leu Leu Ser Gly Gly
227 900 905 910
229 Asn Thr Leu His Leu Val Ser Thr Thr Lys Thr Glu Val Ile Pro Pro
230 915 920 925
232 Leu Ile Glu Asn Arg Gln Ser Trp Ser Val Cys Lys Gln Val Phe Pro
233 930 935 940
235 Gly Leu Asn Tyr Cys Thr Ser Gly Ala Tyr Ser Asn Ala Ser Ser Thr
236 945 950 955 960
238 Asp Ser Ala Ser Tyr Tyr Pro Leu Thr Gly Asp Thr Arg Leu Glu Leu
239 965 970 975
241 Glu Leu Arg Pro Thr Gly Glu Ile Glu Gln Tyr Ser Val Ser Ala Thr
242 980 985 990
244 Tyr Glu Leu Gln Arg Glu Asp Arg Ala Leu Val Asp Thr Leu Lys Phe
245 995 1000 1005
247 Val Thr Gln Ala Glu Gly Ala Lys Gln Thr Glu Ala Thr Met Thr Phe
248 1010 1015 1020
250 Lys Tyr Asn Arg Gln Ser Met Thr Leu Ser Ser Glu Val Gln Ile Pro
251 1025 1030 1035 1040
253 Asp Phe Asp Val Asp Leu Gly Thr Ile Leu Arg Val Asn Asp Glu Ser
254 1045 1050 1055
256 Thr Glu Gly Lys Thr Ser Tyr Arg Leu Thr Leu Asp Ile Gln Asn Lys
257 1060 1065 1070
259 Lys Ile Thr Glu Val Ala Leu Met Gly His Leu Ser Cys Asp Thr Lys
260 1075 1080 1085
262 Glu Glu Arg Lys Ile Lys Gly Val Ile Ser Ile Pro Arg Leu Gln Ala
263 1090 1095 1100
265 Glu Ala Arg Ser Glu Ile Leu Ala His Trp Ser Pro Ala Lys Leu Leu
266 1105 1110 1115 1120
268 Leu Gln Met Asp Ser Ser Ala Thr Ala Tyr Gly Ser Thr Val Ser Lys
269 1125 1130 1135
271 Arg Val Ala Trp His Tyr Asp Glu Glu Lys Ile Glu Phe Glu Trp Asn
272 1140 1145 1150
274 Thr Gly Thr Asn Val Asp Thr Lys Lys Met Thr Ser Asn Phe Pro Val
275 1155 1160 1165
277 Asp Leu Ser Asp Tyr Pro Lys Ser Leu His Met Tyr Ala Asn Arg Leu
278 1170 1175 1180
280 Leu Asp His Arg Val Pro Glu Thr Asp Met Thr Phe Arg His Val Gly

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281	1185	1190	1195	1200
283	Ser Lys Leu Ile Val Ala Met Ser Ser Trp	Leu Gln Lys Ala Ser Gly		
284	1205	1210		1215
286	Ser Leu Pro Tyr Thr Gln Thr	Leu Gln Asp His Leu Asn Ser	Leu Lys	
287	1220	1225	1230	
289	Glu Phe Asn Leu Gln Asn Met	Gly Leu Pro Asp Phe His Ile	Pro Glu	
290	1235	1240	1245	
292	Asn Leu Phe Leu Lys Ser Asp	Gly Arg Val Lys Tyr Thr Leu	Asn Lys	
293	1250	1255	1260	
295	Asn Ser Leu Lys Ile Glu Ile	Pro Leu Pro Phe Gly Gly Lys	Ser Ser	
296	1265	1270	1275	1280
298	Arg Asp Leu Lys Met Leu Glu	Thr Val Arg Thr Pro Ala Leu	His Phe	
299	1285	1290	1295	
301	Lys Ser Val Gly Phe His Leu	Pro Ser Arg Glu Phe Gln	Val Pro Thr	
302	1300	1305	1310	
304	Phe Thr Ile Pro Lys Leu Tyr	Gln Leu Gln Val Pro Leu Leu	Gly Val	
305	1315	1320	1325	
307	Leu Asp Leu Ser Thr Asn Val	Tyr Ser Asn Leu Tyr Asn Trp	Ser Ala	
308	1330	1335	1340	
310	Ser Tyr Ser Gly Gly Asn Thr	Ser Thr Asp His Phe Ser Leu	Arg Ala	
311	1345	1350	1355	1360
313	Arg Tyr His Met Lys Ala Asp	Ser Val Val Asp Leu Leu Ser	Tyr Asn	
314	1365	1370	1375	
316	Val Gln Gly Ser Gly Glu	Thr Thr Tyr Asp His Lys Asn	Thr Phe Thr	
317	1380	1385	1390	
319	Leu Ser Cys Asp Gly Ser	Leu Arg His Lys Phe Leu Asp	Ser Asn Ile	
320	1395	1400	1405	
322	Lys Phe Ser His Val Glu	Lys Leu Gly Asn Asn Pro Val	Ser Lys Gly	
323	1410	1415	1420	
325	Leu Leu Ile Phe Asp Ala	Ser Ser Trp Gly Pro Gln Met	Ser Ala	
326	1425	1430	1435	1440
328	Ser Val His Leu Asp Ser	Lys Lys Gln His Leu Phe Val	Lys Glu	
329	1445	1450	1455	
331	Val Lys Ile Asp Gly Gln	Phe Arg Val Ser Ser Phe	Tyr Ala Lys Gly	
332	1460	1465	1470	
334	Thr Tyr Gly Leu Ser Cys	Gln Arg Asp Pro Asn Thr	Gly Arg Leu Asn	
335	1475	1480	1485	
337	Gly Glu Ser Asn Leu Arg	Phe Asn Ser Ser Tyr Leu Gln	Gly Thr Asn	
338	1490	1495	1500	
340	Gln Ile Thr Gly Arg Tyr	Glu Asp Gly Thr Leu Ser	Leu Thr Ser Thr	
341	1505	1510	1515	1520
343	Ser Asp Leu Gln Ser Gly	Ile Ile Lys Asn Thr Ala	Ser Leu Lys Tyr	
344	1525	1530	1535	
346	Glu Asn Tyr Glu Leu Thr	Leu Lys Ser Asp Thr Asn	Gly Lys Tyr Lys	
347	1540	1545	1550	
349	Asn Phe Ala Thr Ser Asn	Lys Met Asp Met Thr Phe	Ser Lys Gln Asn	
350	1555	1560	1565	
352	Ala Leu Leu Arg Ser Glu	Tyr Gln Ala Asp Tyr Glu	Ser Leu Arg Phe	
353	1570	1575	1580	

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 09/22/2003
PATENT APPLICATION: US/10/656,053 TIME: 16:58:31

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Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:2; Xaa Pos.2
Seq#:75; Xaa Pos.2,3,4,5

VERIFICATION SUMMARY

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Input Set : N:\Crf3\RULE60\10656053.RAW.txt

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L:29 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]
L:30 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]
L:36 M:238 W: Alpha Fields not Ordered, Reordered [(C) CLASSIFICATION:] of (1) (vi)
L:921 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:0
L:2668 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:75 after pos.:0

STATISTICS SUMMARY
PATENT APPLICATION: US/10/656,053

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Application Serial Number: US/10/656,053

Alpha or Numeric or Xml: Alpha

Application Class:

Application File Date: 09-05-2003

Art Unit: OIPE

Software Application: PatentIN1.0

Total Number of Sequences: 229

Total Nucleotides: 702

Total Amino Acids: 23191

Number of Errors: 0

Number of Warnings: 3

Number of Corrections: 2

MESSAGE SUMMARY

220 C: 2 (Keyword misspelled or invalid format)

341 W: 2 ((46) "n" or "Xaa" used)